

view of these amendments and additions, Claims 1, 3-11, 14-17, 21-22 and 38-56 remain pending the application.

Objection to Claims 6, 11 and 41.

Claims 6, 11 and 41 are amended to address the issues raised by the Examiner.

Rejection of Claims 1, 3, 11, 14, 16-27 under 35 USC 102(b)

The Examiner rejects Claims 1, 3, 11, 14, 16-27 as anticipated by U.S. Patent Number 6,449,084 (Guo).

Independent Claim 1 specifies a filter having a light distribution component with an output side. A plurality of array waveguides are configured to deliver a light signal into a light distribution component such that the light signal is incident on the output side of the light distribution component. The array waveguides are defined in a light transmitting medium positioned on a base. The light transmitting medium defines at least a portion of a groove between array waveguides. One or more effective length tuners configured to tune the effective lengths of the array waveguides such that the location where the light signal is incident on the output side changes.

Claim 1 is amended to specify that the array waveguides are defined by a ridge extending from a slab of light transmitting medium. Claim 1 is also amended to specify that a groove extends into the slab of the light transmitting medium such that the groove is spaced apart from the ridges defining the array waveguides adjacent to the groove. Guo does not teach waveguides defined by a ridge extending from a slab of light transmitting medium. Guo also does not teach a groove extending into the slab of a light transmitting such that the groove is spaced apart from the ridges defining array waveguides adjacent to the groove. As a result, Guo does not teach each element of Independent Claim 1 and the rejection should be withdrawn.

Rejection of Claims 1 and 15 under 35 USC 102(b)

The Examiner rejects Claims 1 and 15 as anticipated by Kasahara, et al., *Low-Power Consumption Silica-Based 2x2 Thermooptic Switch Using Trenched Silicon Substrate*, IEEE Photonics Technology Letters, Vol. 11, No. 9, September 1999, pp 1132-1134 (Kasahara).

As noted above, Claim 1 is amended to specify array waveguides defined by a ridge extending from a slab of light transmitting medium. Claim 1 is also amended to specify a groove extends into the slab of the light transmitting medium such that the groove is spaced apart from the ridges defining array waveguides adjacent to the groove. Kasahara does not teach waveguides defined by a ridge extending from a slab of light transmitting medium. Kasahara also does not teach a groove extending into the slab of a light transmitting such that the groove is spaced apart from the ridges defining array waveguides adjacent to the groove. As a result, Kasahara does not teach each element of Independent Claim 1 and the rejection should be withdrawn.

Rejection of Claim 21 under 35 USC 102 and 35 USC 102(b)

The Examiner rejects Claim 21 as anticipated by U.S. Patent Number 5,559,906 (Maerz).

Independent claim 21 is directed to a filter having a light distribution component having an output side. A plurality of array waveguides are configured to deliver a light signal into the light distribution component such that the light signal is incident on the output side of the light distribution component. Independent claim 21 is amended to specify “a temperature control device positioned over a plurality of the array waveguides so as to change the effective length of a plurality of the array waveguides such that the location where the light signal is incident on the output side of the light distribution component changes.” This language requires that a temperature control device be positioned over more than one array waveguide.

Maerz teaches a different phase shifter positioned over each waveguide. See Column 3, lines 40-50 and Figures 1, 4, 5, 6A and 6B. Maerz also teach that a phase shifter can be a device that varies temperature. However, Maerz teaches that “each phase shifter is composed of a device that varies temperature.” See column 6, lines 39-40. As a result, Maerz does not teach a temperature control device positioned over a plurality of the array waveguides as is specified in Claim 1 and the rejection should be withdrawn.

Rejection of Claims 38-43, 45-46 and 49-50 under 35 USC 102(b)

The Examiner rejects Claims 38-43, 45-46 and 49-50 as anticipated by U.S. Patent Number 6,449,084 (Guo).

Independent Claim 38 is directed to a filter having a light distribution component with an output side. A plurality of array waveguides are configured to deliver light signals into the light distribution component such that the light signals are incident on the output side of the light distribution component. The filter also includes a common effective length tuner configured to change the effective length of a plurality of the array waveguides such that the locations where the light signals are incident on the output side of the light distribution component change. The effective length tuner includes a first electrical contact positioned over a plurality of the array waveguides and a second electrical contact positioned under a plurality of the array waveguides.

Independent Claim 38 is amended to specify that the "lengths of the array waveguides (are) selected such that light signals of different wavelengths are incident on the output side at different locations." Guo does not teach array waveguides having lengths selected such that light signals of different wavelengths are incident on the output side of a light distribution component at different locations. Because Guo does not teach each element of the amended Claim 38, the rejection should be withdrawn.

#### CONCLUSION

In light of the Amendments and arguments set forth above, Applicants believe they are entitled to a letters patent. The Examiner is encouraged to telephone the undersigned with any questions.

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Respectfully submitted,

TRAVIS DODD  
Reg. No. 42,491

Law Offices of Travis L. Dodd  
A Professional Corporation  
2490 Heyneman Hollow  
Fallbrook, CA 92028  
Telephone: (760) 731-3091  
Fax: (760) 728-1541

VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS

Please amend the Claims as follows:

1. (Twice Amended) A filter, comprising:

a light distribution component having an output side;

a plurality of array waveguides each defined by a ridge extending from a slab of [in] a light transmitting medium positioned on a base, the array waveguides configured to deliver a light signal into the light distribution component such that the light signal is incident on the output side of the light distribution component;

the light transmitting medium defining at least a portion of a groove extending into the slab of the light transmitting medium[, the groove being positioned] between [adjacent] array waveguides such that the groove is spaced apart from the ridges defining array waveguides adjacent to the groove, a material in the groove being[is] located over the base and between different regions of the light transmitting medium; and

one or more effective length tuners configured to tune the effective lengths of a plurality of the array waveguides such that the location where the light signal is incident on the output side changes.

2. (Canceled)

- 3.-5. (Unchanged)

6. (Twice Amended) The filter of claim 1, wherein each effective length tuner has a different effective area and the effective area for each effective length tuner is not positioned over the light distribution component, the effective area being the area of the effective length tuner that causes the change in effective length.

- 7.-10. (Unchanged)

· 11. (Twice Amended) The filter of claim 1, wherein the length of an effective area of each effective length tuner is different for each array waveguide [waveguides] and the difference in the length for adjacent array waveguides is a constant.

12-13. (Canceled)

14.-17. (Unchanged)

18-20. (Canceled)

21.-22. (Unchanged)

23-37. (Canceled)

38. (Amended) A filter, comprising:

    a light distribution component having an output side;

    a plurality of array waveguides configured to deliver light signals [a light signal] into the light distribution component such that the light signals are [signal is] incident on the output side of the light distribution component, the lengths of the array waveguides selected such that light signals of different wavelengths are incident on the output side at different locations; and

    a common effective length tuner configured to change the effective length of a plurality of the array waveguides such that the locations where the light signals are [location where the light signal is] incident on the output side of the light distribution component change [changes], the effective length tuner including a first electrical contact positioned over a plurality of the array waveguides and a second electrical contact positioned under a plurality of the array waveguides.

39.-40. (Unchanged)

41. (Amended) The filter of claim 38, wherein the first electrical contact or the second electrical contact has a wedge shape [shaped].

42.-54. (Unchanged)

Please add the following new claims:

55. (Added) The filter of claim 38, wherein each of the array waveguides has a different length.

56. (Added) The filter of claim 55, wherein the difference in the length of adjacent array waveguides is a constant.